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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/751,975	12/29/2000	Charles Elkins	V199-1933	9062

7590 01/18/2007
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28333 Telegraph Road
Southfield, MI 48034

EXAMINER

PRONE, JASON D

ART UNIT	PAPER NUMBER
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3724

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/751,975

Applicant(s)

ELKINS ET AL.

Examiner

Jason Prone

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18,20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18,20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 18, 20, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Boyd (3,562,058).

In regards to claim 18, Boyd discloses the same invention including a method of separating (Title) individual circuit boards from a multiple array (Column 1 lines 28-38) with pre-scored planes (Column 2 lines 70-72), aligning one of the pre-scored planes with a splitting element (breaking pad 32), affixing a removable shield element to an individual circuit board portion (3 and 4), loading the removable shield element to reduce board flex (10), inducing torque on the multiple board array such that the multiple board array is forced onto the splitting element and breaks along the pre-scored planes (Column 3 lines 3-15).

In regards to claim 20, Boyd discloses the same invention including an apparatus for separating (Title) individual circuit boards from a multiple array (Column 1 lines 28-38) with pre-scored planes (Column 2 lines 70-72) and a plurality of electrical components (Column 1 lines 28-38) comprising at least one splitting element positioned along one of the pre-scored planes (32), at least one torque inducing element using surface loading to mechanically force the array onto the at least one splitting element

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and thereby breaking the array along the pre-scored plane (10), the at least one torque inducing element forcing the multiple array without loading the electrical components (Fig. 2), the torque inducing element applies the surface loading to the array by way of a shield element attached to the individual circuit board such the components remain undamaged (Fig. 2), and a transport element for automatically aligning one of the pre-scored planes with the at least one splitting element (21).

In regards to claim 21, Boyd discloses the same invention including a method of separating (Title) individual circuit boards from a multiple array (Column 1 lines 28-38) with pre-scored planes (Column 2 lines 70-72), aligning one of the pre-scored planes with a splitting element (breaking pad 32), inducing torque on the array such that the array is forced onto the splitting element and breaks along the pre-scored plane (Column 3 lines 3-15), the inducing torque on the array includes transferring load from a torque inducing element through a shield element into a portion of the array (3 and 4).

Response to Arguments

3. Applicant's arguments filed 30 October 2006 have been fully considered but they are not persuasive. Applicant argues that Boyd fails to disclose the electrical components are shielded from direct force. Boyd clearly teaches a shield (3 and 4) that interacts with the torque-inducing element (10) to break/split the pre-scored work piece. Item 10 does not touch the work piece so item 10 cannot have direct contact with an item it does not even come into contact with. Clearly a force is put onto the shield (3 and 4) by the torque-inducing element (10), which is then transferred to the work piece. Applicant further argues that item 32 is not a splitting element. Any element that assists

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in a splitting function can be considered a splitting element. On lines 11-13 of column 3, in Boyd, states the "breaking pad are locally deformed to permit breaking deflection".

The pad 32 regardless of its structure is necessary to permit breaking/splitting and is therefore considered a splitting element. Item 32 is clearly underneath the work piece and furthermore underneath the pre-scored portions of the work piece. While the work piece is on top of or aligned with item 32 it can be split. If the work piece is not aligned with pad 32 it would not be in the apparatus and the breaking/splitting function could not take place. The claims do not incorporate any limitations preventing a reference with the entire array aligned with the splitting element to anticipate the claims. Shield 3 and 4 allow for a vacuum seal to engulf the work piece. This seal reduces an amount the work piece can move or the amount the work piece could flex (Column 3 lines 13-15) compared to a work piece being used with items 10 and 11 without the vacuum portions. If the work piece were to be broken without items 3 and 4, the board would bend more since there is no structure holding the work piece into a preserved orientation. The term "reduce" is a relative term. As long as the structure lowers the output for trail A compared to another situation or trail B, the term reduced is anticipated. In this case a work piece being broken/split with 3 and 4 would clearly reduce the amount the work piece would move or flex when compared to the situation where the work piece was broken without any type of vacuum seal.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Prone whose telephone number is (571) 272-4513. The examiner can normally be reached on 7:00-4:30, Mon - (every other) Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer D. Ashley can be reached on (571) 272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

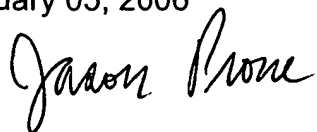
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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

January 05, 2006

A handwritten signature in black ink that reads "Jason Prone". The signature is written in a cursive style with a large, looped initial "J".

Patent Examiner
Jason Prone
Art Unit 3724
T.C. 3700